

A Strategy for Identifying Personal Protective Equipment Surveillance Data Gaps in Agriculture

Kim Faulkner, Ph.D.*, Maryann D'Alessandro, Ph.D.*, John Mendeloff, Ph.D.#, Karen Hamre, M.P.H.+

* NIOSH National Personal Protective Technology Laboratory (NPPTL), # RAND Corporation, + Westat, Inc.

Project Goals

To identify gaps in data gathering and knowledge of existing PPE surveillance in Agriculture to inform the development of PPE surveillance modules needed to advance the current understanding of PPE in Agriculture.

Background

In 2008, the NIOSH Personal Protective Technology (PPT) Program initiated a project to address a need to understand PPE and reporting on PPE in the Agriculture industry.

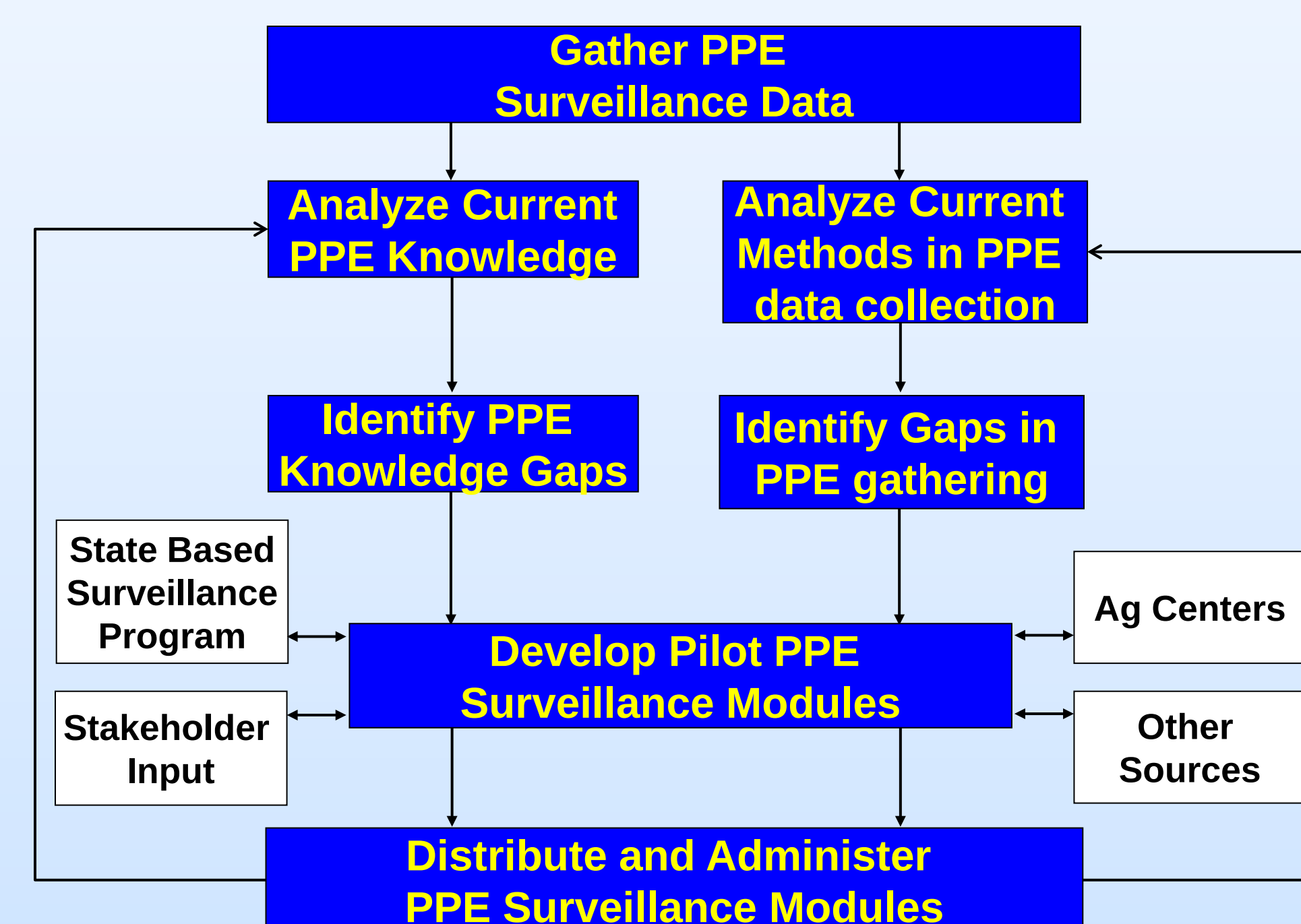


Figure 1. PPE Surveillance Strategy for Agriculture

Ultimately, the PPE surveillance module aims to inform the Agriculture industry as to:

1. Who needs PPE?
2. How is PPE being used?
3. What methods of PPE use are effective/ineffective?

Methods

To start, we identified existing pesticide-related PPE Surveillance data sources to assess:

- The National Agricultural Workers Survey (NAWS)
- NIOSH Sentinel Event Notification System for Occupational Risk (SENSOR)
- California Department of Pesticide Regulation (CDPR) Pesticide Illness Surveillance Program (PISP)
- State and Federal Occupational Safety and Health Administration (OSHA)/ Environmental Protection Agency (EPA) Enforcement Data
- NIOSH Health Hazard Evaluations (HHE)
- Published literature

Methods cont.

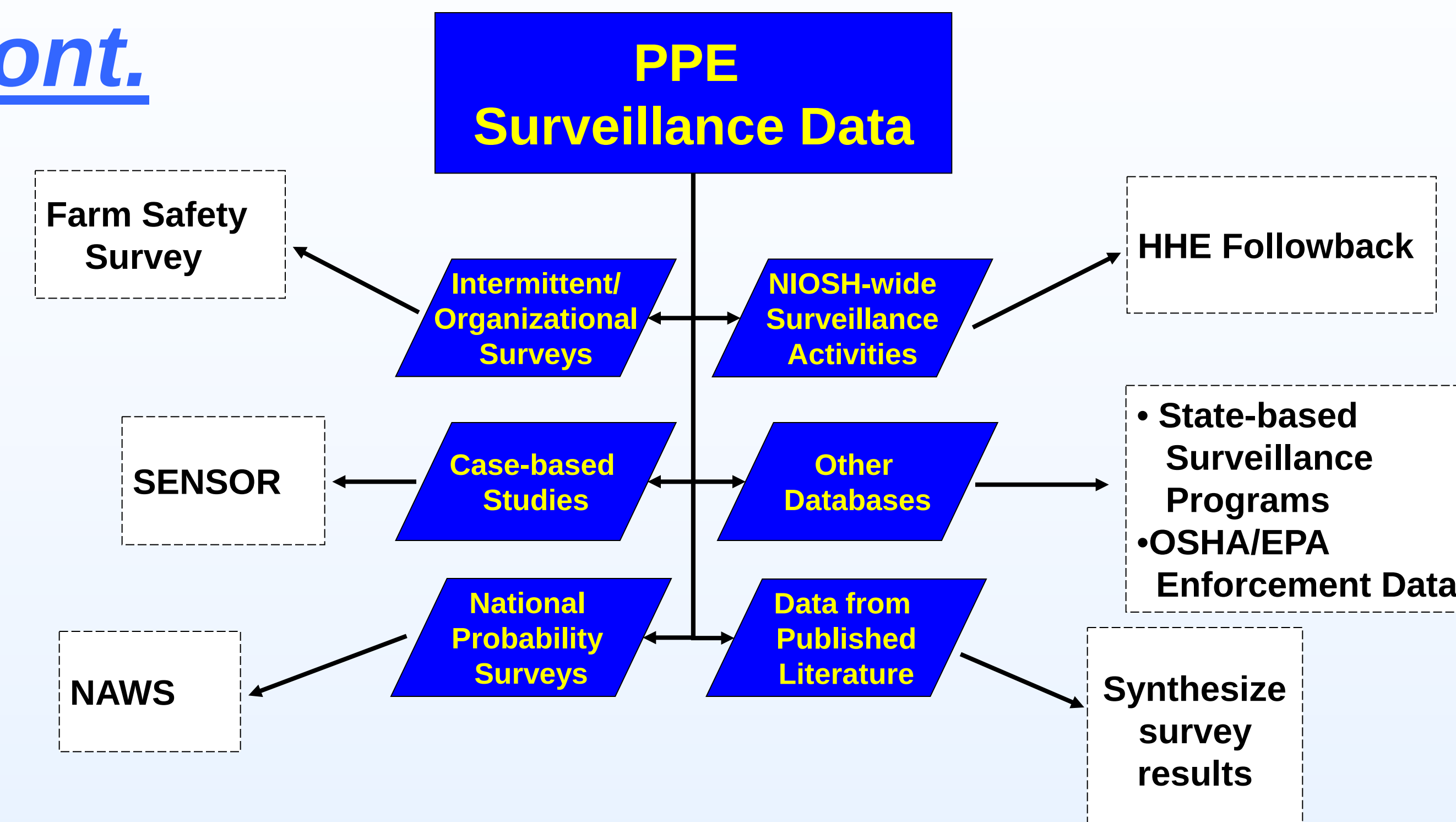


Figure 2. PPE Surveillance Data Types Considered

Why NAWS? NAWS provides a nationally representative and well characterized sample of farm crop laborers in the U.S. involving over 10,000 surveys of pesticide-related PPE use among 12 U.S. regions between 1999-2001.

Why SENSOR? SENSOR is a NIOSH managed state-based surveillance program with a mission to build and maintain occupational illness and injury surveillance capacity within state health departments. Beginning in 1998, data were collected from six states that conducted acute occupational pesticide-related illness surveillance as part of SENSOR-Pesticides. Currently, 12 states have pesticide exposure surveillance programs.

Why State-based surveillance data? Although some states use the NIOSH recommended questionnaire for their data gathering, most states use their own data collection instruments. Data gathered by the states will provide a more complete picture of PPE data gathering.

Why OSHA/EPA Enforcement Data? In 1992, EPA issued a Worker Protection Standard (WPS), which provides specifically for protections of pesticide applicators and field workers. Washington and Oregon OSHA programs enforce the WPS in those states, and thus the enforcement data appear in the OSHA enforcement data, but in all other states, other state agencies enforce the standards. These data will supplement data gathered from other sources by providing field assessments of PPE use.

Next Steps

- Formalize Collaborations
- Complete data analysis from available data to identify issues in pesticide-related PPE use
- Identify pesticide-related PPE data gathering shortcomings and knowledge gaps
- Assess additional data sources to address knowledge gaps in pesticide-related PPE
- Develop standard pesticide-related PPE data collection modules for administration across agriculture surveillance programs
- Initiate efforts to expand to other types of PPE exposures

Preliminary Results

What NAWS can tell us?

- The prevalence of PPE use, characteristics of PPE uses, type(s) of PPE used, and percentages of pesticide handlers who receive training in PPE
- What percentage of pesticide handlers received medical attention for pesticide exposure and whether the prevalence differs according to PPE use and PPE types



What are potential limitations of the NAWS data that may be addressed by other data:

- No data on amounts and routes of pesticide exposure
- No data on how PPE was used
- Limited data on the quality of PPE training
- Limited data on pesticide-related injuries and illness
- Potential bias for over reporting PPE use
- Potential bias due to safer farms and lower risk workers being overly represented
- Data collection is not sufficient for reporting results at the regional level or by interview cycle

What OSHA/EPA enforcement data can tell us?

- The extent of non-compliance with state and federal PPE regulations

Potential Limitations:

- Violations of PPE regulations are not specific enough to inform intervention development

Stakeholders

- Agriculture workers who use PPE

Potential Partnerships

- Department of Labor
- OSHA
- State-based Surveillance Programs
- NIOSH Agriculture Centers

Acknowledgements

Westat Contract 200-2003-01500, Project # 7821 Task 03; RAND Corporation Contract 200-2004-07601 Task Order 0010; NIOSH Division of Surveillance Hazard Evaluations & Field Studies (DSHEFS); and NIOSH Division of Safety Research (DSR)

Disclaimer: The findings and conclusions in this presentation have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.